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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,459	10/16/2003	Naoshi Yamaguchi	2003_1472A	5423

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EXAMINER

DHINGRA, RAKESH KUMAR

ART UNIT PAPER NUMBER

1763

DATE MAILED: 10/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/685,459

Applicant(s)

YAMAGUCHI ET AL.

Examiner

Rakesh K. Dhingra

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 3-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Species 1 (Figures 1B, 1C) in the reply filed on 10/11/05 is acknowledged. Further applicant has stated that claims 1, 2 are readable on the elected species. Claims 3-12 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/11/05.

Specification

The disclosure is objected to because of the following informalities:

- 1) Page 2, line 2: it is suggested to rephrase the sentence "In particular, the plasma ----
-----receive influence" to fully clarify its meaning;
- 2) Page 12, line 23: it is suggested to rephrase the sentence "Providing the divided ----
----- the manufacturing" to fully clarify its meaning;
- 3) Page 31, line 12: it is suggested to verify the part of sentence " dimensions d.sub.1
and d.sub.2 of the clearances 41 and 42 between -----outer peripheral edge of the
substrate 8" since this does not appear to match with Figure 5;
- 4) Page 32, line 16: it is suggested to verify "the ring 10i" since this does not match with
Figure 6.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al (US PGPub. No. 2001/0037771).

Regarding Claim 1: Chen et al teach a plasma processing apparatus (Figure 1-4) for introducing processing gas into a processing chamber 30 (using gas supply 170 and gas flow controller 180) and exciting a plasma in the processing chamber 30 to carry out plasma processing on a substrate 20 to be processed placed on a support member (cathode electrode) 60 inside the processing chamber, the apparatus comprising a shadow ring (ring) 40 for encompassing an outer peripheral edge portion of the substrate 20 in proximity to the outer peripheral edge portion of the substrate, the ring having a clearance between encompassing surface and an upper surface of the substrate (Column 4, line 1-Column 5, line 22).

Regarding Claim 2: Chen et al teach that in the plasma processing apparatus the support member (cathode electrode) has a substrate placement surface 64 having larger than the substrate, and the ring is placed on the substrate placement surface the cathode electrode and has an L-shaped shape (Figure 3) directed in a direction which a cross-section shape of the ring able to encompass the outer peripheral edge portion of the substrate 20 (Figure 4 and Column 4, line 1 to Column 5, line 22).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

1) Flanigan (US Patent No. 6,051,122) teach an apparatus (Figures 1, 2) that has a shadow ring 130 that rests upon an alignment ring 128 and the shadow ring has an

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extending roof portion 220 which overhangs the substrate 120 but does not contact the substrate (Column 3, line 34 to Column 4, line 15).

2) **lizuka et al (US PGPub. No. 2004/0163762)** teach an apparatus (Figures 2, 4, 6) that has a susceptor 23, an annular shadow ring 30 installed to cover an edge of wafer W and the shadow ring is connected to susceptor 23 through an annular member 34 can be raised or lowered by the elevator mechanism 37 (Paragraph 0059).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh K. Dhingra whose telephone number is (571)-272-5959. The examiner can normally be reached on 8:30 -6:00 (Monday - Friday). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571)-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Rakesh Dhingra


Parviz Hassanzadeh
Supervisory Patent Examiner
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